

It would be against the public interest to subject the parties' last mile broadband data transport facilities to any form of regulation at this time....There are many competitors, including the ILECs, that are actively developing broadband transport services...The xDSL services that are currently being deployed by the incumbent LECs alone constitute a significant and attractive commercial alternative to the internet cable services that TCI and others offer...The] demand to unbundle broadband transport will engender intrusive regulation of an emerging new service that requires massive entrepreneurial investments and whose marketplace success is far from assured...Forced unbundling with its attendant regulatory uncertainty would likely slow down the investment in the development of broadband last mile investment. Investing under the shadow of uncertain regulatory rules in an innovative service exacerbates the already substantial risks associated with that investment.<sup>40</sup>

49. By a parity of reasoning, the ILECs argue persuasively for a similar freedom from the obligation to share—and particularly at prices reflecting the FCC's most-efficient firm standard—and for rejecting also the FCC's proffered condition of giving them that freedom if only they will offer the service through fully-separated subsidiaries—which would force them to sacrifice presumably substantial economies of scale or scope.

50. Consider the anomaly of expecting the incumbent local telephone companies to incur these huge costs in competition with giants such as AT&T/TCI. Should their new services lose that competition, they would have to absorb those costs: none of them could be recovered in the FCC-dictated charges for their network elements, because an ideally-efficient firm never fails! Should the new service succeed, the incumbent provider would be required to make it available to would-be entrants on a wholesale basis at prices based on the efficient-firm cost standard, giving them a free ride on its development and marketing efforts. Who would

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<sup>40</sup> Declaration of Professors Janusz A. Ordover and Robert W. Willig, attached to AT&T's and TCI's Joint Reply to Comments and Joint Opposition to petitions to Deny or to Impose Conditions, *In the Matter of Joint Application of AT&T Corp. and Tele-Communications, Inc. for Transfer of Control to AT&T of Licenses and Authorizations Held by TCI and its Affiliates or Subsidiaries*, CS Docket No. 98-178, November 13, 1998. Ordover and Willig make no effort to reconcile their compelling argument here that government restrictions can stifle innovation incentives with their previous advocacy of TELRIC pricing for access to ILEC networks.

undertake costly and risky innovations in the face of such a prospect of grossly asymmetrical treatment of successes and failures?<sup>41</sup>

51. Not only economic theory, but market developments support the proposition that regulatory intervention is unnecessary and counterproductive for advanced telecommunications services. The UNE Fact Report surveys the development of competition for advanced broadband services—a story which has also been widely covered in the business and trade press.<sup>42</sup> The facts of the matter are:

- There are several technologies other than the ILEC networks for bringing advanced services to customers. These include (1) cable television networks, e.g., cable modems, (2) wireless broadband services, (3) satellite, and (4) electric utility facilities
- The ILEC's xDSL technology lags behind cable modems in bringing high speed access to residential consumers and is expected to remain behind, as indicated in Table 1.

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<sup>41</sup> It is not only in their effect on the *incentives* of the ILECs to undertake costly and risky investment in modernizing their networks that the FCC's sharing and network element pricing are likely to prove so harmful. They could also severely impair the *ability* of the incumbents to finance such ventures, by sharply reducing their internal cash flow: retained earnings are frequently the preferable means of financing such large-scale investment projects. See Kenneth A. Froot, David S. Scharfstein and Jeremy C. Stein, *A Framework for Risk Management*, HARVARD BUSINESS REVIEW, November-December, 1994, pp. 91-102. Steven Fazzari, R. Glenn Hubbard and Bruce Petersen report that retained earnings constitute more than 70 percent of the source of funds for corporate investment (p. 147, Table 1) and that on average firms reduce their capital expenditures by more than 36 cents for each \$1 reduction in cash flow (p. 167, Table 4). (*Financing Constraints and Corporate Investment*, BROOKINGS PAPERS ON ECONOMIC ACTIVITY, No. 1, 1988, pp. 141-195.)

<sup>42</sup> For example, the front page of the April 28, 1999 *New York Times* describes high speed services for residential customers, pointing out that cable modems have a head start over the DSL services provided over ILEC networks.

- The ILECs are not even ahead with respect to broadband services using xDSL technology. According to the UNE Fact Report, CLECs such as Covad have been faster to market than they.

In these circumstances, the imposition of unique handicaps on the ILECs would, quite simply, be anticompetitive.

**Table 1: Alternative Residential Broadband Forecasts.**

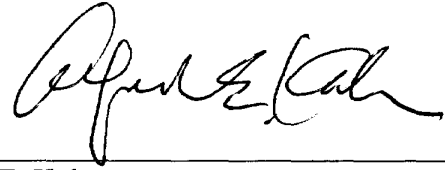
A. Source: Forrester

	1998		2002	
	Volume (million)	Share	Volume (million)	Share
Cable Modems	0.7	97%	13.6	86%
XDSL	0.025	3%	2.2	14%
Total	0.725	100%	15.8	100%

B. Source: IDC

	1998		2002	
	Volume (million)	Share	Volume (million)	Share
Cable Modems	0.63	97%	8.15	66%
XDSL	0.021	3%	4.23	34%
Total	0.651	100%	12.38	100%

I declare under penalty of perjury that the foregoing is true and correct. Executed on  
May 24, 1999.

A handwritten signature in cursive script, appearing to read "Alfred E. Kahn", written in black ink.

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Alfred E. Kahn

## **ALFRED E. KAHN**

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Professor Kahn is the Robert Julius Thorne Professor of Political Economy, Emeritus, at Cornell University and a Special Consultant to NERA.

He has been Chairman of the New York Public Service Commission; Chairman of the Civil Aeronautics Board; and Advisor to the President (Carter) on Inflation and Chairman of the Council on Wage and Price Stability.

Professor Kahn received his Bachelor's (summa cum laude) and Master's degrees from New York University and a Doctorate in Economics from Yale University. Following service in the Army, he served as Chairman of the Department of Economics at Ripon College, Wisconsin. He moved to the Department of Economics at Cornell University, where he remained until he took leave to assume the Chairmanship of the New York Public Service Commission. During his tenure at Cornell, Professor Kahn served as Chairman of the Department of Economics, member of the Board of Trustees of the University and Dean of the College of Arts and Sciences.

Throughout his career, Professor Kahn has served on a variety of public and private boards and commissions including: the Attorney General's National Committee to Study the Antitrust Laws; the senior staff of the President's Council of Economic Advisors; the Economic Advisory Council of American Telephone & Telegraph Company; the National Academy of Sciences Advisory Review Committee on Sulfur Dioxide Emissions; the Environmental Advisory Committee of the Federal Energy Administration; the Public Advisory Board of the Electric Power Research Institute; the Board of Directors of the New York State Energy Research and Development Authority; the Executive Committee of the National Association of Regulatory Utility Commissioners; the National Commission for Review of Antitrust Laws and Procedures; the New York State Council on Fiscal and Economic Priorities; the Governor of New York's Fact-Finding Panel on Long Island Lighting Company's Nuclear Power Plant at Shoreham, L.I.; the Governor of New York's Advisory Committee on Public Power for Long Island; the National Governing Board of Common Cause; and, in 1990, as Chairman of the International Institute for Applied Systems Analysis Advisory Committee on Price Reform and Competition in the USSR.

He has also served as a court-appointed expert in *State of New York v. Kraft General Foods, Inc., et al.*, U.S. District Court, S.D.N.Y.; Advisor to New York Governor Carey on Telecommunications Policy; and as a consultant to the Attorneys General of New York, Pennsylvania and Illinois, the Ford Foundation, the National Commission on Food Marketing, Federal Trade Commission, Antitrust Division of the Department of Justice, the U.S. Department of Agriculture and the City of Denver on charging and financing of Stapleton Airport.

He has received L.L.D. honorary degrees from Colby College, Ripon College, Northwestern University, the University of Massachusetts and Colgate University, and an honorary D.H.L. from the State University of New York, Albany; he also received the Distinguished Transportation Research Award of the Transportation Board Forum, The Alumni Achievement Award of New York University, the award of the American Economic Association's Transportation and Public Utilities Group for Outstanding Contributions to Scholarship, The Henry Edward Salzberg Honorary Award from Syracuse University for Outstanding Achievement in the Field of Transportation, and the Burton Gordon Feldman Award for Distinguished Public Service from Brandeis University; and was elected to membership in the American Academy of Arts and Sciences and Vice President of the American Economic Association. He was for 15 years a regular commentator on PBS's "The Nightly Business Report."

He has testified before many U.S. Senate and House Committees, the Federal Power Commission, the Federal Energy Regulatory Commission and numerous state regulatory bodies.

Professor Kahn's publications include *Letting Go: Deregulating the Process of Deregulation; Great Britain in the World Economy; Fair Competition: The Law and Economics of Antitrust Policy* (co-authored); *Integration and Competition in the Petroleum Industry* (co-authored); and *The Economics of Regulation*. He has written numerous articles which have appeared in *The American Economic Review*, *The Quarterly Journal of Economics*, *The Journal of Political Economy*, *Harvard Law Review*, *Yale Journal on Regulation*, *Yale Law Journal*, *Fortune*, *The Antitrust Bulletin* and *The Economist*, among others.

**EDUCATION:**

YALE UNIVERSITY  
Ph.D., Economics, 1942

UNIVERSITY OF MISSOURI  
Graduate Study, 1937-1938

NEW YORK UNIVERSITY  
M.A., Economics, 1937  
A.B. (summa cum laude), Economics, 1936

**EMPLOYMENT:**

1961-1974 NATIONAL ECONOMIC RESEARCH ASSOCIATES, INC.  
1980- Special Consultant

CORNELL UNIVERSITY  
1947-1989 Assistant Professor; Associate Professor; Robert Julius Thorne Professor of Economics; Robert Julius Thorne Professor of Political Economy, Emeritus, 1989-; Chairman, Department of Economics; Dean, College of Arts and Sciences; on leave 1974-80.

NEW YORK UNIVERSITY SCHOOL OF LAW  
Spring 1989 Visiting Meyer Professor of Law

UNITED STATES GOVERNMENT  
1978-1980 Advisor on Inflation to President Carter  
1978-1980 Chairman, Council on Wage and Price Stability  
1977-1978 Chairman, Civil Aeronautics Board  
1955-1957 Senior Staff, Council of Economic Advisors to the President  
1943 U.S. Army, Private  
1943 War Production Board  
1942 Associate Economist, International Economics Unit, Bureau of Foreign and Domestic Commerce, Department of Commerce  
1941-1942 Associate Economist, Antitrust Division, U.S. Department of Justice

NEW YORK STATE PUBLIC SERVICE COMMISSION  
1974-1977 Chairman

BROOKINGS INSTITUTION  
1940,  
1950-1951 Staff Economist

RIPON COLLEGE  
1945-1947 Assistant Professor, Chairman, Department of Economics

TWENTIETH CENTURY FUND  
1944-1945 Research Economist



1943-1944	COMMISSION ON PALESTINE SURVEYS Economist
1937-1938	UNIVERSITY OF MISSOURI Teaching Assistant

# **CONSULTANCIES AND PROFESSIONAL ACTIVITIES:**

1994-1995	Antitrust Division, U.S. Department of Justice, on the application of Ameritech for waivers of the interexchange restrictions in the AT&T Modified Final Judgment
1994	American Airlines on code-sharing
1993-1994	Court-appointed expert in State of New York v. Kraft General Foods, Inc., et al., U.S. District Court, S.D.N.Y.
1992	New Zealand Telecom on the progress of competition in New Zealand telecommunications
1992	Rochester Telephone Company on corporate restructuring and deregulation
1992	Russian Government on economic reform
1991	British Mercury on terms of competition with British Telecom
1989	City of Denver on charging and financing of Stapleton Airport
1988-1990	Attorneys General, New York and Pennsylvania, on airline mergers
1985	Attorney General, State of Illinois, on Illinois Bell rates
1981-1984	City of Long Beach, California, the Coca-Cola Company and American Airlines on antitrust litigation
1981-1997	Economic commentary, Nightly Business Report (PBS)
1980-1982	Advisor to Governor Carey on Telecommunications Policy
1968	Ford Foundation
1966	National Commission on Food Marketing
1965, 1974	Federal Trade Commission
1963-1964	Antitrust Division, Department of Justice
1960-1961	U.S. Department of Agriculture
1957-1961	Boni Watkins, Jason & Co.

See also the list of testimony below.

# **MEMBERSHIPS:**

1998-	Member, Committee for a Study of Competition in the U.S. Airline Industry, Transportation Research Board, National Research Council
1992-1994	Member, New York State Telecommunications Exchange
1992-1993	Member, Ohio Blue Ribbon Panel on Telecommunications Regulation
1991-	Board of Editors, <i>Review of Industrial Organization</i>
1990-1992	Chairman, International Institute for Applied Systems Analysis Advisory Committee on Price Reform and Competition in the USSR
1986	Governor Cuomo's Advisory Panel on public power for Long Island

1983-1989	Governor Cuomo's Fact-finding Panel on Long Island Lighting Company's Nuclear Power Plant at Shoreham, L.I.
1983-1990	New York State Council on Fiscal and Economic Priorities
1982-	<i>The American Heritage Dictionary</i> Usage Panel
1982-1985	Governing Board, Common Cause
1980-1986	Director, New York Airlines
1978-1979	National Commission for the Review of Antitrust Laws and Procedures
1975-1977	Project Committee, Electric Utility Rate Design Study, Electric Power Research Institute
1974-1975	National Academy of Science Review Commission on Sulfur Oxide Emissions
1974-1977	Public Advisory Board, Electric Power Research Institute
1974-1977	Environmental Advisory Committee, Federal Energy Administration
1974-1977	Executive Committee, National Association of Regulatory Utility Commissioners, and Chairman, Committee on Electric Energy
1968-1974	Economic Advisory Board, American Telephone & Telegraph Corporation
1965-1967	Economic Advisory Committee, U.S. Chamber of Commerce
1967-1969	Chairman, Tompkins County Economic Opportunity Corporation
1964-1969	Board of Trustees, Cornell University
1961-1964	Board of Editors, <i>American Economic Review</i>
1953-1955	Attorney General's National Committee to Study the Antitrust Laws

#### HONORS AND AWARDS:

Apr 1999	J. Rhoads Foster Award for achievements in economic regulation
Jan 1998	Recipient of the 1997 Sovereign Fund Award "Honoring Vision, Commitment and Achievement in the Pursuit of Individual Freedom"
Dec 1997	The 1997 L. Welch Pogue Award For Lifetime Contributions to Aviation
May 1995	Wilbur Cross Medal for outstanding achievement, Yale University
Mar 1989	Burton Gordon Feldman Award for Distinguished Public Service, Gordon Public Policy Center, Brandeis University
Feb 1989	Distinguished Service Award, Public Utility Research Center, University of Florida
Nov 1988	International Film and TV Festival of New York, Bronze Medal presented to The Nightly Business Report/WPBT2 for Editorial/Opinion Series written by Alfred E. Kahn
Apr 1986	Harry E. Salzberg 1986 Honorary Medallion for outstanding achievement in the field of transportation
Oct 1984	Distinguished Transportation Research Award of the Transportation Research Forum
1981-1982	Vice President, American Economic Association
1978	Richard T. Ely lecturer, American Economic Association, 1978
1978	Rejection Scroll, International Association of Professional Bureaucrats
May 1985	State University of New York (Albany), DHL (Hon.)
May 1983	Colgate University, LL.D. (Hon.)
June 1982	Northwestern University, LL.D. (Hon.)
May 1980	Ripon College, LL.D. (Hon.)
May 1979	University of Massachusetts, LL.D. (Hon.)

May 1978	Colby College, LL.D. (Hon.)
1977-	Fellow of the American Academy of Arts and Sciences
1976	Distinguished Alumni Award, New York University
1976	American Economic Association, Section on Public Utilities and Transportation, citation for distinguished contributions
1954-1955	Fulbright Fellowship, Italy
1935-	Phi Beta Kappa
1939-1940	Yale-Brookings Fellow

## BOOKS:

*Letting Go: Deregulating the Process of Deregulation*, Michigan State University Institute of Public Utilities, July 1998.

*The Economics of Regulation*, 2 volumes, John Wiley, 1970 and 1971. Reprinted by The MIT Press, 1988, with a new "Introduction: A Postscript, Seventeen Years After," pp. xv-xxxvii.

*Integration and Competition in the Petroleum Industry*, (with Melvin G. DeChazeau), Petroleum Monograph Series, Volume 3 (Yale University Press, 1959). Reprinted in 1971.

*Fair Competition: The Law and Economics of Antitrust Policy* (with Joel B. Dirlam) (Cornell University Press, 1954). Reprinted by Greenwood Press, 1970.

*Great Britain in the World Economy* (Columbia University Press, 1946). Reprinted in 1968.

## MAJOR ARTICLES:

"The Telecommunications Act At Three Years: An Economic Evaluation of Its Implementation by The Federal Communications Commission," with Timothy J. Tardiff and Dennis L. Weisman, forthcoming, *Information Economics and Policy*.

"Bribing Customers to Leave and Calling it 'Competition,'" *The Electricity Journal*, May 1999, pp. 88-90.

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"How to Treat the Costs of Shared Voice and Video Networks in a Post-regulatory Age," *Policy Analysis*, #264, November 27, 1996, Cato Institute.

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"Pricing of Telecommunications Services: A Comment," in *Review of Industrial Organization*, Vol. 8, 1993, pp. 39-41.

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"Market Power Issues in Deregulated Industries," in *Antitrust Law Journal*, Vol. 60, Issue 3, American Bar Association, 1992, pp. 857-866.

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"The Relevance of Industrial Organization," *Industrial Organization, Antitrust, and Public Policy*, John V. Craven, ed., Kluwer-Nihjoff, 1983.

"Some Thoughts on Telephone Access Pricing," National Economic Research Associates, April 1983.

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"The Passing of the Public Utility Concept: A Reprise," in *Telecommunications Today and Tomorrow*, Eli Noam (ed.) Harcourt Brace Jovanovich, 1983.

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"Ethical Values in a Market System," *Across the Board*, The Conference Board, April 1981, pp. 57-63.

"Can Liberalism Survive Inflation?" *The Economist*, March 7, 1981, pp. 21-25.

"Health Care Economics: Paths to Structural Reform," in Mancur Olson (ed.), *A New Approach to the Economics of Health Care*, Washington, American Enterprise Institute, 1981.

"Regulation and the Imagination," *Proceedings of a Regulatory Council Conference*, United States Regulatory Council, July 22, 1980, pp. 1-9.

"Health Care and Inflation: Social Compassion and Efficient Choice," *National Journal*, August 2, 1980, pp. 1294-97.

"A Paean to Legal Creativity" (with Michael Roach), *Administrative Law Review*, Washington, D.C., Winter 1979, Volume 31, No. 1, pp. 97-114.

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"Load Control, Resource Conservation and King Charles' Head," Iowa State University Regulating Conference, *Proceedings*, May 19, 1977, pp. 68-74.

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